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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
DONG, DALEI	

ART UNIT	PAPER NUMBER
2879	

DATE MAILED: 10/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/014,993	TOUCHBERRY ET AL.	
	Examiner	Art Unit	
	Dalei Dong	2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 September 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,6,7,9-11 and 27-34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,6,7,9-11 and 27-34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 and 10 are rejected under 35 U.S.C. 102(b) as being anticiapted by U.S. Patent No. 4,670,691 to Podgorski.

Regarding to claim 1, Podgorski discloses in Figure 1, a system for restricting a getter, comprising in combination: a getter(61) located in a getter well (18 and 24) wherein the getter well (18 and 24) is located in a gyroscope block (10), wherein the getter well (18 and 24) is located at a distance away from an optical cavity (16, 19 and 22) located in the gyroscope block (10); and a hole (17, 20 and 23) located in the gyroscope block between the getter well (18) and the optical cavity (16, 19 an d22), wherein the hole (17, 20 and 23) has a diameter substantially less than a diameter of the getter well. The prior art of record satisfies the claimed structural limitation and thereby capable of limiting gas flow between the getter well and the optical cavity.

Further, the claim "thereby limiting gas flow between the getter well and the optical cavity" is merely an intended use of the apparatus and it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be

employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham,* 2 USPQ2d 1647 (1987).

Regarding to claim 10, Podgorski discloses in Figure 1, a method for restricting a getter comprising in combination: drilling a getter well (18 and 24) through the top of a gyroscope block, wherein the getter well is located at a distance way from an optical cavity (16, 19 and 22) in the gyroscope block; inserting a getter (61) into getter well (18 and 24); and drilling a hole (17, 20 and 23) having a diameter substantially less than a diameter of the getter well between the getter well and the optical cavity, wherein the hole limits gas flow between the getter well and the optical cavity.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 2, 3, 6, 7, 9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,670,691 to Podgorski in view of U.S. Patent No. 5,056,102 to Galbrecht.

Regarding to claim 2, Podgorski discloses in Figure 1, a system for restricting a getter, comprising in combination: a getter(61) located in a getter well (18 and 24)

wherein the getter well (18 and 24) is located in a gyroscope block (10), wherein the getter well (18 and 24) is located at a distance away from an optical cavity (16, 19 and 22) located in the gyroscope block (10); and a hole (17, 20 and 23) located in the gyroscope block between the getter well (18) and the optical cavity (16, 19 an d22), wherein the hole (17, 20 and 23) has a diameter substantially less than a diameter of the getter well. The prior art of record satisfies the claimed structural limitation and thereby capable of limiting gas flow between the getter well and the optical cavity.

Further, the claim "thereby limiting gas flow between the getter well and the optical cavity" is merely an intended use of the apparatus and it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham,* 2 USPQ2d 1647 (1987).

However, Podgorski does not disclose the getter is composed of a barium alloy. Galbrecht teaches in Figure 3, the getter is composed of a barium alloy (see column 2, lines 50-53) for the purpose of removing contaminant gases from the gas discharge cavity.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have made the getter material of Podgorski with the barium alloy of Galbrecht in order to efficiently and effectively removing contaminant gases from the gas discharge cavity.

Regarding to claim 3, Galbrecht teaches the getter removes non-inert gases from the optical cavity.

Regarding to claim 6, Podgorski discloses in Figure 1, a snap ring (63) holds the getter (61) in the getter well (18 and 24).

Regarding to claim 7, Podgorski discloses the claimed invention except for the specific dimension of the hole. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have arranged the dimension of the hole according to the design requirements, since it has been held that where the general condition of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233. Furthermore, Applicant has not establish the criticality of the dimension of the hole to the invention in the disclosure, and neither comparative analysis nor study has been done to show the improvements and advantages of the claimed specific dimension of the hole over the prior art of record.

Regarding to claim 9, Podgroski discloses in Figure 1, a system for restricting a getter, comprising in combination: a getter (61) located in a getter well (18 and 24), wherein the getter well is located in a gyroscope block, wherein the getter well (18 and 24) is located at a distance away from an optical cavity (16, 19 and 22) located in the gyroscope block, wherein a snap ring (63) holds the getter (61) in the getter well; and a

hole (17, 20 and 23) located between the getter well and the optical cavity, wherein the hole has a diameter substantially less than a diameter of the getter well. The prior art of record satisfies the claimed structural limitation and thereby capable of limiting gas flow between the getter well and the optical cavity.

Further, the claim "thereby limiting gas flow between the getter well and the optical cavity" is merely an intended use of the apparatus and it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham,* 2 USPQ2d 1647 (1987).

However, Podgroski does not disclose a getter composed of barium alloy and the hole is made with certain dimensions. Galbrecht teaches in Figure 3, the getter is composed of a barium alloy (see column 2, lines 50-53) for the purpose of removing contaminant gases from the gas discharge cavity.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have made the getter material of Podgorski with the barium alloy of Galbrecht and made the hole of Podgroski with certain dimension in accordance with the design specification in order to efficiently and effectively removing contaminant gases from the gas discharge cavity.

Regarding to claim 11, Podgorski discloses the claimed invention except for the specific dimension of the hole. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have arranged the dimension of the hole

according to the design requirements, since it has been held that where the general condition of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233. Furthermore, Applicant has not establish the criticality of the dimension of the hole to the invention in the disclosure, and neither comparative analysis nor study has been done to show the improvements and advantages of the claimed specific dimension of the hole over the prior art of record.

5. Claims 27-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 4,740,985 Podgorski.

Regarding to claim 27, Podgorski discloses in Figure 2, a system for restricting a getter (250), comprising a diffusion barrier (216), wherein the diffusion barrier reduces a rate at which the getter absorbs non-inert gas (see column 2, line 50 to column 3, line 2).

However, Podgorski does not disclose the diffusion barrier (260) located on the getter (250). Podgorski teaches the diffusion barrier to cover the getter material in order to allow minute gas to permeate through.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have place the diffusion barrier on the getter material in order to allow low permeable to gas in very minute quantities.

Regarding to claim 28 it is old and well known in the art to utilize a barium alloy as the getter material for discharge device with inert gas, and further Applicant has disclosed that barium and titanium or zirconium alloys can used interchangeably as the

getter material, and Podgorski teaches the use of titanium alloy as the getter material in column 2, lines 47-48. Furthermore, Podgorski discloses the claimed invention except for the getter composed of a barium alloy. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilize the barium alloy, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

Regarding to claim 29, Podgorski discloses the getter removes non-inert gases from a cavity.

Regarding to claims 30, Podgorski discloses the claimed invention except for the diffusion layer is composed of barium nitride. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilize barium nitride as the diffusion barrier, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

Regarding to claim 31, Podgorski discloses in Figure 2, a system for restricting a getter (250), comprising a diffusion barrier (216), wherein the diffusion barrier reduces a rate at which the getter absorbs non-inert gas (see column 2, line 50 to column 3, line 2).

However, Podgorski does not disclose the diffusion barrier (260) located on the getter (250). Podgorski teaches the diffusion barrier to cover the getter material in order to allow minute gas to permeate through. Further, it is old and well known in the art to compose the getter material with barium nitride.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilize the old and well known barium nitride as the getter of Podgorski and place the diffusion barrier on the getter material in order to allow low permeable to gas in very minute quantities.

Regarding to claim 32, Podgorski discloses in Figure 2, a system for restricting a getter (250), comprising a diffusion barrier (216), wherein the diffusion barrier reduces a rate at which the getter absorbs non-inert gas (see column 2, line 50 to column 3, line 2).

However, Podgorski does not disclose the diffusion barrier (260) located on the getter (250). Podgorski teaches the diffusion barrier to cover the getter material in order to allow minute gas to permeate through.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have place the diffusion barrier on the getter material in order to allow low permeable to gas in very minute quantities.

Regarding to claim 33, the method of forming the diffusion barrier is not germane to the issue of patentability of the method for restricting a getter. Therefore, this limitation has not been given patentable weight.

Regarding to claim 34, the method of forming the diffusion barrier is not germane to the issue of patentability of the method for restricting a getter. Therefore, this limitation has not been given patentable weight.

Response to Arguments

6. Applicant's arguments filed February 17, 2004 have been fully considered but they are not persuasive.

In response to Applicant's argument that Podgorski '691 does not show or suggest a hole located between the getter well and the optical cavity having a diameter substantially less than a diameter of the getter well. Examiner asserts that Podgorski '691 discloses in Figure 1, a system for restricting a getter, comprising in combination: a getter(61) located in a getter well (18 and 24) wherein the getter well (18 and 24) is located in a gyroscope block (10), wherein the getter well (18 and 24) is located at a distance away from an optical cavity (16, 19 and 22) located in the gyroscope block (10); and a hole (17, 20 and 23) located in the gyroscope block between the getter well (18) and the optical cavity (16, 19 an d22), wherein the hole (17, 20 and 23) has a diameter substantially less than a diameter of the getter well thereby limiting gas flow between the getter well (18 and 24) and the optical cavity (16, 19 and 22). Thus, Examiner asserts that the Podgorski reference discloses the claimed invention and maintains the rejection.

Also, in response to Applicant's argument that by arranging the end cover to be located on the getter, the end cover would not completely cover the passage way as the getter is located in the getter well, and thus, the end cover would not prevent getter

material from entering into the lasing cavity. Examiner asserts that the diffusion barrier of Podgroski '985 is for reducing the amount of gas permeated into the lasing cavity and not for to prevent getter material from entering into the lasing cavity. Further, by placing the diffusion barrier on the getter material, the diffusion barrier could completely cover the getter material. Furthermore, Applicant merely combining the getter material and the diffusion barrier previously known as taught by Podgorski '985 into one single component. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have place the diffusion barrier on the getter material. Thus, Examiner asserts that the prior art of record teaches the claimed invention and maintains the rejection.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following prior art are cited to further show the state of the art of composition of a getter material.

U.S. Patent No. 5,091,233 to Kirby.

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dalei Dong whose telephone number is (571)272-2370. The examiner can normally be reached on 8 A.M. to 5 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar Patel can be reached on (571)272-2457. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

D.D.
October 7, 2004

Joseph Williams
Primary Examiner
Art Unit 2879